

Appl. No. 09/703,038
Reply to Office Action of November 13, 2007
Attorney Docket No. 82720

REMARKS

Claims 63 – 88 and 90 – 125 remain in the case. Claims 88 and 90 – 111 are allowed. Claims 64, 65, 67, 72–77, 81, 83, 84, 113, 123, and 125 were indicated as allowable if rewritten in independent form and to include all intervening claims. These indications of allowable claims and patentable subject matter are acknowledged with appreciation.

In the outstanding non-final Office Action the Examiner: rejected previously-allowed claims 63, 66, 68 – 71, 78 – 80, 82, 85 – 87, 112, 114 – 122 and 124 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,463,506 to McAllister (hereinafter referred to as “McAllister”) in view of U.S. Patent No. 6,829,437 to Kirby (hereinafter referred to as “Kirby”).

By this Response, Applicants respectfully traverse the Examiner’s rejections, as the cited art taken alone or in combination fails to disclose, teach, or suggest all of the claimed features.

Rejection under 35 U.S.C. 103(a)

In the outstanding Office Action, claims 63, 66, 68 – 71, 78 – 80, 82, 85 – 87, 112, 114 – 122 and 124 were rejected under 35 U.S.C. 103(a) as being unpatentable over McAllister in view of Kirby.

Response

Reconsideration and withdrawal of the rejections are requested.

To establish a prima facie case of obviousness, the Examiner must establish: (1) that some suggestion or motivation to modify the references exists; (2) a reasonable expectation of success; and (3) that the prior art references teach or suggest all of the Claim limitations. Amgen, Inc. v. Chugai

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Pharm. Co., 18 USPQ2d 1016, 1023 (Fed. Cir. 1991); In re Fine, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988); In re Wilson, 165 USPQ 494, 496 (CCPA 1970).

It is respectfully submitted that McAllister and Kirby, taken alone or in combination, fail to disclose, teach, or suggest all the features of independent claims 63 and 112, and of the claims dependent therefrom.

Claim 63

Independent claim 63 recites, *inter alia*, the steps of “constructing a chunk as a substantially fixed quantity of data *with a payload that is sized to fit more than one of said data packets;*” “filling said payload of said chunk *with a portion of at least one data packet;*” and “including a *framing symbol* in each said chunk.” (Claim 63, emphases added)

The Examiner asserts that McAllister alone discloses each of the above three features. This assertion is traversed.

McAllister is directed to the combination and assembly of data lines and associated cache tags in a plurality of sequential data chunks. (McAllister, Abstract) The Examiner cites only nine lines of McAllister as disclosing the above captioned features, which are quoted here in their entirety:

“Referring now to FIG. 2, changing the order in which the ECC information, the tag information, and the payload data, is recorded within the memory line layout has numerous advantages. As described previously, the 9 bits of ECC information is specific to, and required to remain within, each 144 bit chunk of data. However, by moving all 28 bits of tag information within the first chunk of data, several benefits result. The remaining 107 bits of chunk 0 is filled with payload data.”

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(McAllister, col. 6, lines 7 – 15)

Applicants respectfully assert that McAllister nowhere discloses, teaches, or suggests the claimed steps of “constructing a chunk as a substantially fixed quantity of data *with a payload that is sized to fit more than one of said data packets;*” “filling said payload of said chunk *with a portion of at least one data packet;*” and “including a *framing symbol* in each said chunk.” (Claim 63, emphases added).

Applicants note that the term “packet” appears nowhere in the disclosure of McAllister, and that the Examiner has not identified any equivalent structure in McAllister. Even if *arguendo* the Examiner equates McAllister’s “bits” of “payload data” with the presently claimed “data packets,” the Examiner has not shown how any chunk in McAllister is “constructed...with a payload that is sized to fit *more than one...data packet[]*.” The Examiner’s attention is directed to page 9 of the present application specification as originally filed, where clear relationships between packets and chunks are discussed, and which clarifies that the construction of a chunk from “data packets” is more than the mere filling of the chunk with “bits” of “payload data.”

Further, Applicants note that the terms “frame” or “framing” appear nowhere in the disclosure of McAllister, and that the Examiner has not identified any equivalent structure in McAllister. The Examiner’s attention is directed to page 10 of the present application specification as originally filed, where a framing symbol is defined as “a unique symbol that must be found...in order to identify a chunk...” Does the Examiner equate McAllister’s “ECC information” with the claimed framing symbol? If so, the Examiner’s attention is directed to the complete paragraph beginning on line 25 of

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page 10, where the framing symbol is described as “not covered by FEC [that is, the error correction] field...” Alternatively, does the Examiner equate McAllister’s “tag” with the claimed framing symbol? Applicants note that the disclosure of McAllister is explicitly directed to *removing* cache tags from all of the chunks, and then transmitting *all* of these cache tags “prior to transfer of the bits constituting the data lines” (see McAllister, Abstract). Thus, the “tag” of McAllister could not be used “in order to identify a chunk” as described in the present application specification, and in fact McAllister teaches away from the use of its “tag” for this purpose.

Thus, as McAllister nowhere discloses a “packet” or a “framing symbol,” and in fact teaches away from the inclusion of a “framing symbol” as defined above, Applicants submit that McAllister cannot alone render obvious claim 63, nor any claim dependent therefrom.

Although not cited for disclosing the above-identified features of claim 63, Applicants note that Kirby does not in any case cure these deficiencies of McAllister.

Kirby is directed to a “fiber optic links interconnecting a plurality of hybrid electronic-optical switch devices,” (Kirby, Abstract) but is exclusively directed to “reduc[ing] the analysis of data required in *packet switching*.” (Kirby, Col. 2, lines 4 and 5). Applicants note that the term “chunk” appears nowhere in the disclosure of Kirby, which is solely interested in pure packet switching. Applicants further note that, since Kirby nowhere discloses a chunk, it does not disclose any framing symbol to be included in a chunk.

Thus, as Kirby is nowhere directed to chunks, Applicants submit that Kirby too does not disclose, teach, or suggest “constructing a *chunk* as a substantially fixed quantity of data with a payload

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that is sized to fit more than one of said data packets;” “*filling said payload of said chunk with a portion of at least one data packet;*” or “including a framing symbol *in each said chunk,*” (emphases added) and thus, that Kirby does not cure the above-identified deficiencies of McAllister.

Further, since Kirby again is directed only to packet switching, and not to transmitting chunks whatsoever, Applicants submit that Kirby further does not disclose, teach, or suggest these additional features of claim 63: “converting said chunk from electrical information into optical information” and “passing said chunk through an optical switch fiber.”

In summary, the Examiner has cited a combination of two references against the present claim 63, which together fail to disclose, teach, or suggest any of these five features:

“constructing a chunk as a substantially fixed quantity of data with a payload that is sized to fit more than one of said data packets” (neither reference discloses the construction of a chunk with a payload sized to fit more than one data packet);

“filling said payload of said chunk with a portion of at least one data packet” (neither reference discloses filling a chunk with a portion of a data packet);

“including a framing symbol in each said chunk” (neither reference discloses a framing symbol for a chunk);

“converting said chunk from electrical information into optical information” (neither reference discloses converting a chunk into optical information); and

“passing said chunk through an optical switch fiber.” (neither reference discloses passing a chunk through an optical network).

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Accordingly, Applicants respectfully submit that the Examiner has failed to make a *prima facie* case of obviousness with respect to claim 63, and thus to claims 64 – 111 dependent therefrom. Reconsideration and withdrawal of all rejections and objections to these claims is requested.

Claims 66, 68 – 71, 78 – 80, 82, and 85 – 87

Initially, Applicants submit that these claims are allowable at least for their dependency from claim 63, which Applicants submit is in condition for allowance at least for the reasons given above.

Further, Applicants note with alarm that the Examiner has made no attempt whatsoever in the present Office Action to locate the features of these claims in the cited art of record. The Examiner bears the burden of establishing that the prior art references together teach or suggest all of the Claim limitations, in at least as much detail as is presently claimed.

Applicants submit that the cited art fails to disclose, teach, or suggest *inter alia* each of the following independently patentable features present in the above dependent claims:

- a “framing symbol [that] has a length of 16 bytes” (Claim 66; neither cited reference teaches a framing symbol, as discussed above);
- “cyclical redundancy check (CRC) coding in each chunk” (Claim 69; neither reference teaches CRC whatsoever);
- “using said CRC encoded in each said chunk to determine that the entire said chunk has a proper CRC value” (Claim 71; again, neither reference teaches CRC whatsoever);
- a “chunk header” (Claim 78; the Examiner has not identified any feature in McAllister equivalent to a chunk header, while Kirby is wholly silent as to chunks);

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- a “chunk header” that includes “identification of chunk type” (Claim 79; the Examiner has not identified any feature in McAllister equivalent to a chunk header, while Kirby is wholly silent as to chunks);
- a “chunk header” that includes “header parity” (Claim 80; the Examiner has not identified any feature in McAllister equivalent to a chunk header, while Kirby is wholly silent as to chunks);
- a “chunk header” that includes “a sequence number” (Claim 82; the Examiner has not identified any feature in McAllister equivalent to a chunk header, while Kirby is wholly silent as to chunks).

If, alternatively, the Examiner is taking “Official Notice” in regards to any of the above independently patentable features, the basis for such reasoning must be set forth explicitly. The examiner must provide specific factual findings predicated on sound technical and scientific reasoning to support his or her conclusion of common knowledge. See Soli, 317 F.2d at 946, 37 USPQ at 801; Chevenard, 139 F.2d at 713, 60 USPQ at 241. The applicants should be presented with the explicit basis on which the examiner regards the matter as subject to official notice and be allowed to challenge the assertion in the next reply after the Office action in which the common knowledge statement was made.

Thus, Applicants further submit that claims 66, 69, 71, 78 – 80, and 82 are each independently patentable over the cited art of record.

Reconsideration and withdrawal of these rejections is requested.

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Claim 112

Independent claim 112 recites, *inter alia*, the steps of “encapsulating input data packets from a plurality of source ports into substantially fixed sized chunks...” and “formatting overhead information onto each of said chunks, said overhead including a framing symbol.”

The Examiner asserts that McAllister alone discloses both of the above three features. This assertion is traversed.

The Examiner cites the identical passage quoted above, and reproduced here, in support of this rejection:

“Referring now to FIG. 2, changing the order in which the ECC information, the tag information, and the payload data, is recorded within the memory line layout has numerous advantages. As described previously, the 9 bits of ECC information is specific to, and required to remain within, each 144 bit chunk of data. However, by moving all 28 bits of tag information within the first chunk of data, several benefits result. The remaining 107 bits of chunk 0 is filled with payload data.”
(McAllister, col. 6, lines 7 – 15)

Applicants respectfully assert that McAllister nowhere discloses, teaches, or suggests the claimed steps of “encapsulating input data packets from a plurality of source ports into substantially fixed sized chunks...” and “formatting overhead information onto each of said chunks, said overhead including a framing symbol.” (Claim 112)

Applicants again note that the term “packet” appears nowhere in the disclosure of McAllister, and that the Examiner has not identified any equivalent structure in McAllister. Even if *arguendo* the

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Examiner equates McAllister's "bits" of "payload data" with the presently claimed "data packets," the Examiner has not shown data in McAllister is "encapsulated from a plurality of source ports into substantially fixed sized chunks", as the Examiner has not identified the "packets" nor the "source ports."

Further, Applicants again note that the terms "frame" or "framing" appear nowhere in the disclosure of McAllister, and that the Examiner has not identified any equivalent structure in McAllister.

Thus, as McAllister nowhere discloses a "packet" or a "framing symbol," and in fact teaches away from the inclusion of a "framing symbol" as defined above, Applicants submit that McAllister cannot alone render obvious claim 112, nor any claim dependent therefrom.

Although not cited for disclosing the above-identified features of claim 112, Applicants note that Kirby does not in any case cure these deficiencies of McAllister. Again, the term "chunk" appears nowhere in the disclosure of Kirby, which is solely interested in pure packet switching. Applicants further note that, since Kirby nowhere discloses a chunk, it does not disclose any framing symbol to be included in a chunk.

Thus, as Kirby is nowhere directed to chunks, Applicants submit that Kirby too does not disclose, teach, or suggest "encapsulating input data packets from a plurality of source ports into substantially fixed sized chunks..." and "formatting overhead information onto each of said chunks, said overhead including a framing symbol." (Claim 112)

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Further, since Kirby again is directed only to packet switching, and not to transmitting chunks whatsoever, Applicants submit that Kirby further does not disclose, teach, or suggest these additional features of claim 112: “electrically switching … chunks to be sent to an appropriate optical switch plane;” “converting … chunks into optical signals;” and “directing … chunks through said appropriate optical switch plane toward a plurality of destination ports.”

In summary, the Examiner has cited a combination of two references against the present claim 112, which together fail to disclose, teach, or suggest *any* of these five features:

“encapsulating input data packets from a plurality of source ports into substantially fixed sized chunks, wherein said input data packets are electrical signals” (neither reference discloses the construction of a chunk from data packets);

“formatting overhead information onto each of said chunks, said overhead including a framing symbol” (neither reference discloses a framing symbol for a chunk);

“electrically switching said chunks to be sent to an appropriate optical switch plane” (neither reference discloses converting a chunk into optical information);

“converting said chunks into optical signals” (neither reference discloses converting a chunk into optical information); and

“directing said chunks through said appropriate optical switch plane toward a plurality of destination ports” (neither reference discloses passing a chunk through an optical network).

Accordingly, Applicants respectfully submit that the Examiner has failed to make a *prima facie* case of obviousness with respect to claim 112, and thus to claims 112 – 125 dependent therefrom.

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Reconsideration and withdrawal of all rejections and objections to these claims is requested.

Claims 114 – 122 and 124

Initially, Applicants submit that these claims are allowable at least for their dependency from claim 112, which Applicants submit is in condition for allowance at least for the reasons given above.

Further, Applicants note with alarm that the Examiner has made no attempt whatsoever in the present Office Action to locate the features of these claims in the cited art of record. The Examiner bears the burden of establishing that the prior art references together teach or suggest all of the Claim limitations, in at least as much detail as is presently claimed.

Applicants submit that the cited art fails to disclose, teach, or suggest *inter alia* each of the following independently patentable features present in the above dependent claims:

- “information flow[ing] through [an optical] switch plane in ... substantially fixed sized chunks” (Claim 114; neither reference discloses passing a chunk through an optical network);
- “formatting ... chunks to include adding a chunk header” (Claim 115; the Examiner has not identified any feature in McAllister equivalent to a chunk header, while Kirby is wholly silent as to chunks);
- a “chunk header [that] includes identification of a specific routing subplane through [a] switch fabric” (Claim 117; in Kirby, input “packets,” not chunks, are routed to an output fiber, see Kirby, col. 7, lines 19 – 35);
- a “chunk header [that] includes identification of an input of said appropriate optical switch plane and an output of said appropriate optical switch plane for said chunk (Claim 119; in

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Kirby, input “packets,” not chunks, are routed to an output fiber, see Kirby, col. 7, lines 19 – 35);

- a “chunk header [which] includes identification of chunk type” (Claim 122; again, the Examiner has not identified any feature in McAllister equivalent to a chunk header, while Kirby is wholly silent as to chunks).

If, alternatively, the Examiner is taking “Official Notice” in regards to any of the above independently patentable features, the basis for such reasoning must be set forth explicitly. The examiner must provide specific factual findings predicated on sound technical and scientific reasoning to support his or her conclusion of common knowledge. See Soli, 317 F.2d at 946, 37 USPQ at 801; Chevenard, 139 F.2d at 713, 60 USPQ at 241. The applicants should be presented with the explicit basis on which the examiner regards the matter as subject to official notice and be allowed to challenge the assertion in the next reply after the Office action in which the common knowledge statement was made.

Thus, Applicants further submit that claims 114, 115, 117, 119, and 122 are each independently patentable over the cited art of record.

Reconsideration and withdrawal of these rejections is requested.

CONCLUSION

In light of the foregoing, Applicants submit that the application is now in condition for allowance. If the Examiner believes the application is not in condition for allowance, Applicants

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respectfully request that the Examiner contact the undersigned attorney if it is believed that such contact will expedite the prosecution of the application.

In the event this paper is not timely filed, Applicants petition for an appropriate extension of time. Please charge any fee deficiency or credit any overpayment to Deposit Account No. 14-0112.

Respectfully submitted,

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